

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
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TOTAL	



General Certificate of Secondary Education  
Foundation Tier  
March 2012

# Mathematics

**43602F**

## Unit 2

**F**

**Wednesday 7 March 2012 9.00 am to 10.15 am**

<p><b>For this paper you must have:</b></p> <ul style="list-style-type: none"> <li>mathematical instruments.</li> </ul> <p>You must <b>not</b> use a calculator.</p>	
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### Time allowed

- 1 hour 15 minutes

### Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book.

### Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 66.
- The quality of your written communication is specifically assessed in Questions 4, 7 and 12. These questions are indicated with an asterisk (\*)
- You may ask for more answer paper and graph paper. These must be tagged securely to this answer booklet.

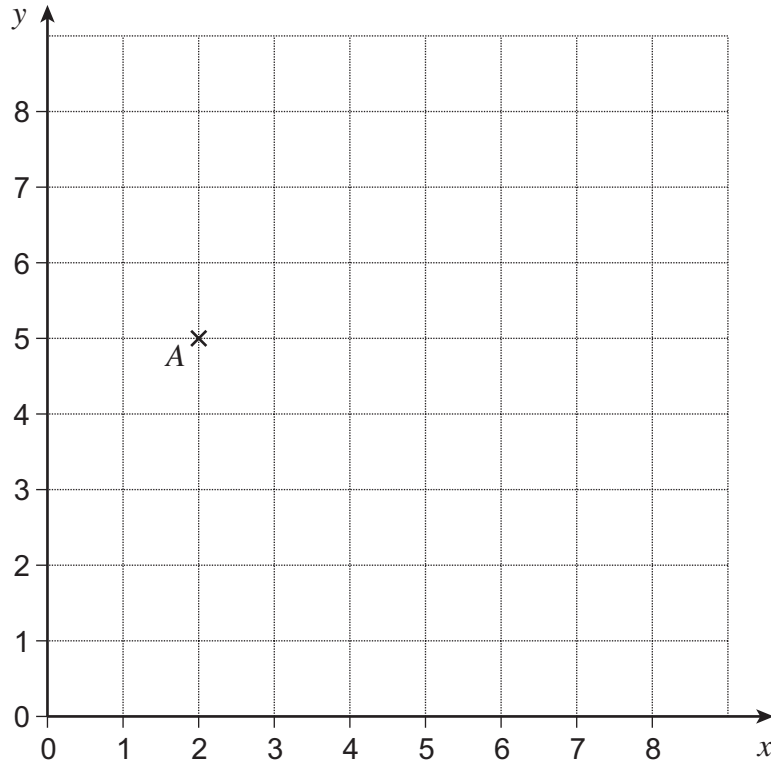
### Advice

- In all calculations, show clearly how you work out your answer.



Answer **all** questions in the spaces provided.

- 1** Point  $A$  is shown on the grid.



- 1 (a)** Write down the coordinates of  $A$ .

Answer (..... , .....)

(1 mark)

- 1 (b)** Plot point  $B$  (8,1) on the grid.

(1 mark)

- 1 (c)** Work out the coordinates of the midpoint of  $AB$ .

Answer (..... , .....)

(2 marks)



2 (a) Circle the **two** multiples of 7

6    10    16    21    25    27    32    35

(2 marks)

2 (b) Circle the **two** factors of 30

6    10    16    21    25    27    32    35

(2 marks)

2 (c) Circle the **two** square numbers.

6    10    16    21    25    27    32    35

(2 marks)

3 Work out  $321 - 123$

.....  
.....  
.....

Answer ..... (2 marks)



\*4 Mr and Mrs Jones and their two children go to the cinema.

Ticket Prices		
Single tickets	Adult	£9.25
	Child	£5.50
Family ticket	2 adults and 2 children	£25.00

Mr Jones buys the family ticket instead of single tickets.

How much does he save?

.....

.....

.....

.....

.....

.....

Answer £ ..... (4 marks)

5 Two numbers add up to 200.  
The difference between the numbers is 30.

Work out the numbers.

.....

.....

.....

Answer ..... and ..... (2 marks)



**6** Here is a sequence.

8      14      20      26      32      .....      .....

**6 (a)** Write down the rule for continuing the sequence.

.....

Answer ..... (1 mark)

**6 (b)** Write down the next **two** numbers in the sequence.

Answer ..... and ..... (1 mark)

**6 (c)** The 50<sup>th</sup> term in the sequence is 302.

What is the 48<sup>th</sup> term in the sequence?

.....

.....

Answer ..... (2 marks)

**Turn over for the next question**



**\*7** Amie buys

a book for £5.99

a newspaper for £1.80

3 pens for 27p each.

She only has a £10 note.

How much change should she receive?

You **must** show your working.

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.....

Answer £ ..... (4 marks)



**8** In each part, circle the odd one out.  
Give a reason for your answer.

**8 (a)**                    75%                     $\frac{3}{4}$                     0.75                    7.5

Reason .....

.....  
(1 mark)

**8 (b)**                     $\frac{2}{6}$                      $\frac{4}{10}$                      $\frac{6}{18}$                      $\frac{8}{24}$

Reason .....

.....  
(1 mark)

**8 (c)**                     $\sqrt{64}$                      $\sqrt{81}$                      $\sqrt{125}$                      $\sqrt{144}$

Reason .....

.....  
(1 mark)

**8 (d)**                    11                    13                    15                    17

Reason .....

.....  
(1 mark)



9 Mel wants to make 20 pancakes.

She needs  $\frac{1}{4}$  litre of milk to make 4 pancakes.

She has one litre of milk.

Does she have enough milk to make all the pancakes?

You **must** show your working.

.....

.....

.....

.....

(3 marks)

10 Here are six number cards.

-7

-5

-3

-2

0

2

Sort the cards into three pairs so that each pair has the same total.

.....

.....

.....

.....

and

Total = .....

and

Total = .....

and

Total = .....

(2 marks)





11 (a) Solve  $\frac{y}{3} = 8$

.....

Answer  $y =$  ..... (1 mark)

11 (b) Simplify fully  $3c + 5d + 4c - 2d$

.....

Answer ..... (2 marks)

11 (c) Given that  $P = 3e + 5f$

work out the value of  $P$  when  $e = 4$  and  $f = -2$

.....

.....

.....

Answer ..... (2 marks)

**Turn over for the next question**



**\*12** Which is bigger, 0.38 or  $\frac{3}{8}$  ?

You **must** show your working.

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.....  
.....  
.....

Answer ..... (3 marks)

**13 (a)** Write the number one hundred thousand as a power of 10.

.....  
.....

Answer ..... (1 mark)

**13 (b)** Work out the value of  $\frac{2^3 \times 5^2}{10}$

.....  
.....  
.....

Answer ..... (3 marks)



**14** Sophie spent  $\frac{1}{4}$  of her pocket money on magazines.  
Then she spent  $\frac{2}{3}$  of what she had left on a present.  
She now has £6.  
How much pocket money did she start with?

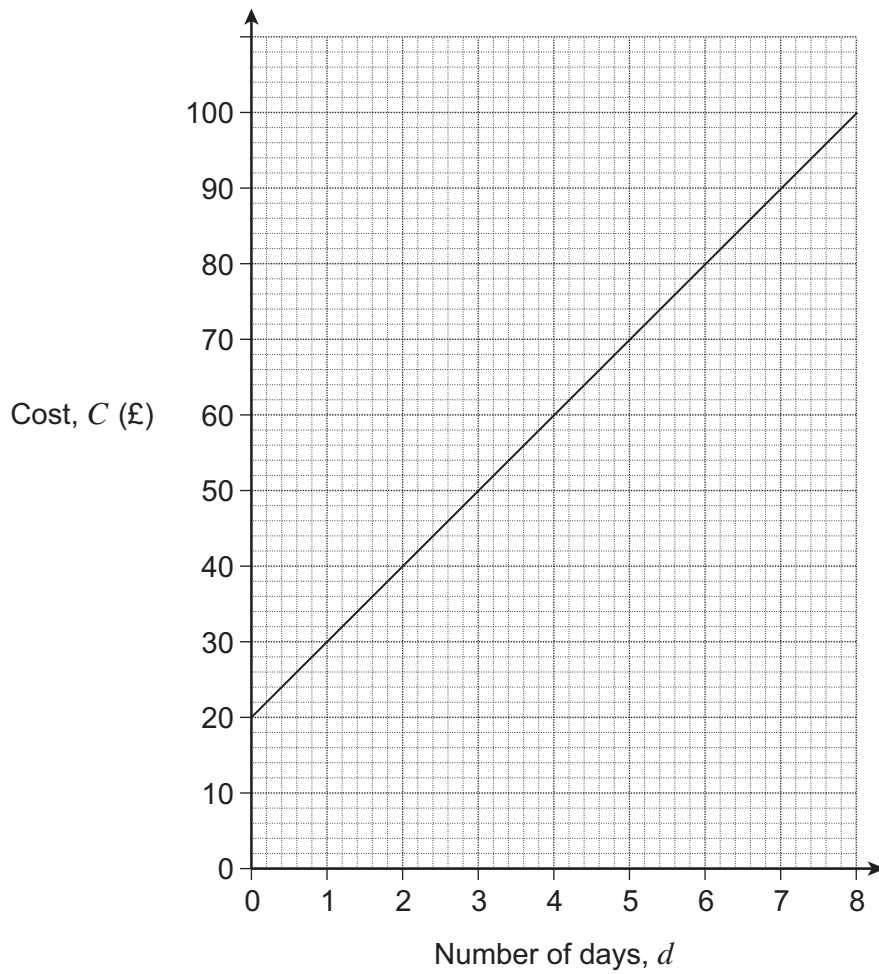
.....  
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Answer £ ..... (4 marks)

**Turn over for the next question**



- 15 The graph shows the cost,  $C$  (£), of hiring a car for  $d$  days from Roy's Rentals.



- 15 (a) Circle the correct formula for hiring a car from Roy's Rentals.

$$C = 20d + 100$$

$$C = 10d + 20$$

$$C = 20d + 10$$

$$C = 5d + 20$$

(1 mark)



**15 (b)** The cost of hiring a car from First Cars is given by the formula  $C = 8d + 30$

Plot the graph of  $C = 8d + 30$  on the grid opposite.

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.....

.....

.....

.....

(2 marks)

**15 (c)** Toby wants to hire a car for 7 days.

Which of these firms should he use?  
Give a reason for your answer.

.....

.....

.....

(2 marks)

**Turn over for the next question**



16 (a) Solve  $\frac{12 - x}{3} = 5$

.....  
.....  
.....  
.....

Answer  $x =$  ..... (3 marks)

16 (b) Rearrange this formula to make  $t$  the subject.

$$s = 3t + 4$$

.....  
.....  
.....

Answer  $t =$  ..... (2 marks)





**There are no questions printed on this page**

**DO NOT WRITE ON THIS PAGE  
ANSWER IN THE SPACES PROVIDED**

